

The invention features plant cells and plants that include a nucleic acid molecule encoding a chimeric isoprenoid synthase polypeptide including an asymmetrically positioned homologous domain. The chimeric isoprenoid synthases of the invention catalyze the production of isoprenoid reaction products that are not produced when the asymmetrically positioned homologous domain is positioned at its naturally-occurring site in an isoprenoid synthase polypeptide.